GW Wells Monitoring Report Semi-Annual Wells February, 1999

NEVADA GOLDFIELDS McCormick, SC MAY 13 1999 HYDIROGEOLOGY

SIGNATURE PAGE

This report, "Groundwater Sampling and Analytical Procedures Report for Semi-Annual Wells February, 1999," has been prepared in accordance with accepted quality control practices at the request of and for the exclusive use of NEVADA GOLDFIELDS. The report has been reviewed by the undersigned reviewers.

SHEALY ENVIRONMENTAL SERVICES, INC.

Michael A. Woodrum, Vice President of Analytical Services

March 3, 1999

Andy Norris, Quality Assurance/Quality Control Officer

March 3, 1999

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GROUNDWATER SAMPLING AND ANALYTICAL PROCEDURES REPORT

Semi- Annual Wells February, 1999

NEVADA GOLDFIELDS, INC. McCormick. SC

I. INTRODUCTION

This report describes the procedures followed by SHEALY ENVIRONMENTAL SERVICES, INC. (SHEALY) during the sampling and analysis of groundwater at NEVADA GOLDFIELDS. McCormick, SC. The report includes procedures for:

- 1. Sample collection
- 2. Sample preservation
- 3. Chain-of-Custody control
- 4. Analytical protocol

These procedures were developed by SHEALY to comply with the sampling procedures recommended by SCDHEC, the US Environmental Protection Agency (EPA), the Resource Conservation and Recovery Act (RCRA), Groundwater Monitoring Technical Enforcement Guidance Document (TEGD) (1986), and published research findings. The protocol described was designed to insure that the integrity of the samples were maintained in the field, during transit to the laboratory and throughout the analytical procedures.

I.A. MONITORING PARAMETERS AND FREQUENCY

The following wells were sampled during February, 1999:
D-3 GW-N GW-O GW-5 L-2

D-3 GW-N GW-O GW-5 L-2 F-3 A-3 GW-6 B-2

These monitoring wells were analyzed for the following parameters:

*Alkalinity *Ammonia-N *Chloride *Cyanide *Fluoride *Nitrate-N *Nitrite-N *TOC

*TDS

*Metals: Aluminum, Arsenic, Barium, Cadmium, Calcium, Chromium, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Nickel, Potassium, Selenium, Silver, Sodium, Zinc, Dissolved Copper

I.B. SAMPLING PROTOCOL

The procedures described below are intended to insure that representative groundwater samples are collected. Procedures for measurement of the water table depth, measurement of total well depth, well evacuation, and sample collection are included.

For each well, all data collected were recorded on a Field Data Information Sheet. Prior to the initiation of activities at each well, all sampling personnel put on new, laboratory quality PVC gloves. These gloves were replaced as necessary during the well evacuation and sampling procedure. Prior to the collection of any groundwater quality data at each well, the surface integrity of the well was checked. Any problems which could affect groundwater sample integrity were noted on the Field Data Information Sheet.

I.B.1. Water Level Measurement

Prior to the evacuation of each monitoring well, the depth to the water table was determined with the use of an electronic water level indicator. The water level indicator uses a sensitive circuitry to activate a buzzer when electrical continuity is made at the probe. The sensitivity is set so that waters with conductivities greater than approximately one umhos/cm will close the circuit. After use at each well, the instrument was cleaned according to the "Field Cleaning Procedures," which are described in Section I.C.1. The depth to the water table was measured by turning the instrument on and then slowly lowering the instrument probe into the well until the buzzer sounded. The distance from the measuring point of the well to the water level was then measured and recorded. The instrument was calibrated in 0.05 foot increments. All measurements were made and estimated to the nearest 0.01 foot.

I.B.2. Total Depth Measurement

The total depth measurement is used in calculating the volume of water standing in the well casing. The total well depth was taken from historical data.

I.B.3. Well Evacuation

The purpose of the well evacuation procedure is to initiate the introduction of water from the surrounding aquifer into which the well is placed. By removing standing water from the well, a hydraulic gradient is created which results in water from the surrounding aquifer into the well. The quality of this water is representative of the water quality immediately surrounding the well.

Well evacuation and sampling of all wells at the site were done using 1.66 inch outside diameter, three foot long Teflon or stainless steel bailers with a single bottom check valve. All bailers were cleaned at the laboratory prior to use, and a separate bailer was used for each well. When field cleaning was required, the method outlined in Section I.C.1. was used and new 1/8 inch nylon twine was used for each well.

The following steps were followed for evacuation with Teflon bailers:

- 1. The depth to the water table was subtracted from the total well depth to determine the length of the water column. The water column length was multiplied by the appropriate conversion factor for that particular well casing diameter to determine the volume, in gallons, of water standing in the well casing. This volume was then multiplied by three to calculate the standard evacuation volume.
- 2. The bailer was lowered to a depth just below the water level in the well each time to insure adequate evacuation of the standing water.
- 3. The pH and Specific Conductivity were measured and recorded periodically during well evacuation. For high yield wells, well evacuation continued until the standard evacuation volume was removed and both pH and Specific Conductivity were relatively stable. Stability of the pH is defined as two consecutive measurements varying by no more than 10 percent. All evacuated volumes and field measurements were recorded on the Field Data Information Sheet.

Wells which were evacuated to dryness prior to reaching the standard evacuation volume were sampled as soon as a sufficient volume of water had entered the well. Field parameters were measured prior to sample collection to insure water quality stability.

I.B.4. Sample Collection

The primary consideration during the collection of groundwater samples is to insure that the sample is not altered or contaminated during withdrawal from the well and introduction into the sample container.

A complete set of pre-cleaned and pre-labeled sample containers were removed from the cooler and slowly filled with fresh sample, poured directly from the bailer. Preservatives were added to the sample bottles prior to leaving for the sampling event. Care was taken to insure that the bailer did not contact the sample bottle during filling. The filled bottles were then capped and securely placed into the pre-cleaned cooler. The Chain of Custody Form, was then completed for that well. Finally, the well was re-capped and locked.

I.C. FIELD QUALITY CONTROL

A strict quality control program is followed in the field by SHEALY to insure that sample integrity is maintained during sample collection and transit to the laboratory. In addition, all equipment and instruments are carefully maintained and calibrated in accordance with schedules and procedures described in SHEALY's Quality Control Manual entitled "SOP and QA Manual for Groundwater Sampling".

I.C.1. Field Cleaning Procedures

All field equipment and instrumentation are cleaned at the laboratory according to standard laboratory procedures upon return from each sampling trip. Field equipment and instrumentation include: sample coolers, pH and Specific Conductivity meters, and field measurement vessels. If instrumentation and field equipment were used on more than one well, it was cleaned according to the following field cleaning procedures:

- 1. Rinse item thoroughly with a 5% phosphate-free laboratory detergent solution.
- 2. Rinse item with deionized water, twice.

I.C.2. Field Instruments and Measuring Devices

Instruments and devices used to collect field data at the NEVADA GOLDFIELDS facility include: pH and Specific Conductivity meters and an electronic water level indicator.

The pH and Specific Conductivity meters were calibrated in the field prior to sampling. The pH meter was calibrated using a 4 SU standard and a 10 SU standard. The Specific Conductivity meter was also calibrated in the field according to SHEALY's Field Operation SOP and the manufacturer's specifications. All calibration records for both meters are recorded in the appropriate calibration log books maintained at Shealy.

I.C.3. Field Blanks

One set of field blanks was collected during the sampling event. At that time, one set of bottles was randomly removed from the sample cooler and labeled as "Field Blank". The Field Blank was obtained by filling a laboratory cleaned bailer with deionized water. this water was then poured into the labeled sample bottles. The deionized water is also used to rinse field equipment. Once filled, the field blanks were treated as samples and placed in the sample cooler for transport to the laboratory. Field blanks and groundwater samples were analyzed for the same parameters in order to assure quality control during sampling, transportation, and analysis.

I.C.4. Field Data Information Sheet

All pertinent field information was recorded on the Field Data Information Sheet as it was collected. This information includes: date of sampling, name of collector, monitoring well number, casing diameter and material of construction, well integrity, measuring point elevation, total well depth, depth to groundwater, volume of water in casing, method of evacuation and sampling, total volume of water evacuated, field measurements with time and volume evacuated, and field observations. Information on the Field Data Information Sheets was reviewed upon arrival at the laboratory and pertinent information transferred to the Certificate of analysis and noted as field measurements.

I.C.5. Sample Transportation and Chain of Custody

The transportation of groundwater samples from the time of collection to their arrival at the laboratory is an important part of the groundwater monitoring program. The mode of travel must be such that the sample is not altered physically, chemically, or biologically. The travel time to the laboratory must not interfere with the sample holding time. The Chain of Custody must also be maintained during the transportation process. Samples collected at the NEVADA GOLDFIELDS facility remained in the possession of SHEALY personnel and were transported to the laboratory within the allowed holding time of all the required parameters. Custody is defined as:

- 1. Being in one's physical possession.
- 2. Being in one's view, after being in one's possession.
- 3. Being in a designated secure area.

Upon arrival at the laboratory, the sampling personnel relinquished the samples to the laboratory sample custodian. This transaction was documented on the Chain of Custody Form.

Reviewed By:

Milton P. Quattlebaum

Field Service Supervisor

II. ANALYTICAL PROTOCOL

The analytical protocols used at SHEALY to insure that groundwater quality at the NEVADA GOLDFIELDS facility was accurately detected and quantified were taken two EPA sources, Methods for Chemical Analyses of Water and Wastes and Test Methods for Evaluation Solid Waste. The analysis for metals was for the total recoverable fraction. Laboratory Quality Control/Quality Assurance procedures are presented in detail in the SHEALY's SOP Manuals.

Scientists and Consultants

106 VANTAGE POINT DRIVE CAYCE, SOUTH CAROLINA 29033

CERTIFICATE OF ANALYSIS

(803) 791-9700 FAX (803) 791-9111 www.shealyenvironmental.com

SC DHEC No. 32010

NC DEHNR No. 329

Client:

NEVADA GOLDFIELDS PO Box 1530 McCormick, SC 29

29835

Attention:

Scott Wilkinson

SHEALY Lab No: 157516

Description: A-3

Coll. Date: 02/02/99 Coll. Time: 1145

Date Received: 02/02/99

Date Reported: 02/18/99 Date Revised: 03/26/99 QA/QC Officer _____

V.P. Analytical MA

Parameters	Method	Result	Units	Date Prepared	Date Analyzed	Anal.
Well Depth		73.10	ft.		02/02/99	gws
Water Level Depth From Top of Casing		30.85	ft.		02/02/99	GWS
pH-Field at 15.0 C	150.1	5.04	នប		02/02/99	GWS
Specific Conductance at 25 C - Field	120.1	18.5	umhos/cm		02/02/99	GWS
Temperature-Field INORGANICS	170.1	15.0	C		02/02/99	GWS
Alkalinity Bicarbonate	SM4500D	<10.0	mg/l		02/03/99 1344	MMD
Ammonia-N	350.3	0.337	mg/l		02/04/99	WCM
Chloride	300.0	4.41	mg/l		02/04/99	JPS
Cyanide-Total	335.2	<0.010	mg/l	02/15/99 0800		JPS
Fluoride-Total	300.0	<0.500	mg/l		02/04/99	JPS
Nitrate-N	353.2	0.125	mg/l		02/02/99	NWD
Nitrite-N	354.1	<0.020	mg/l		02/02/99	NWD
Sulfate	300.0	8.28	mg/l		02/04/99	JPS
TOC	415.1	<1.0	mg/l		02/16/99	JPS
TDS	160.1	<10	mg/l		02/03/99 1530	MCM
METALS						
Aluminum	6010B	0.165	mg/l	02/04/99 0830	02/10/99 1202	FTS
Arsenic	6010B	<0.005	mg/l	02/04/99		FTS
Barium	6010B	0.162	mg/l	02/04/99 0830		FTS
Cadmium	6010B	<0.002	mg/1	02/04/99 0830		FTS
Calcium	6010B	0.201	mg/l	02/04/99 0830		FTS
Chromium	6010B	<0.005	mg/l	02/04/99 0830		FTS
Copper	6010B	0.012	mg/l	02/04/99 0830		FTS
Iron	6010B	<0.050	mg/l	02/04/99 0830		FTS
Lead	6010B	<0.003	mg/l	02/04/99 0830		FTS
Magnesium	6010B	0.208	mg/l	02/04/99 0830		FTS

Page 2 (Continuation of 157516)

	20.45.04	B 3 L		Date	Date Analyzed	ana1	
Parameters	Method	Result	Units	Frepared	Analyzeu		
Manganese	200.7	<0.010	mg/l	02/04/99 0830	02/10/99 1202	FTS	
Mercury	7470A	<0.0002	-	0830	02/17/99 1500		
Nickel	6010B	<0.010	_	0830	02/10/99 1202		
Potassium	6010B	<0.200	_	0830	02/10/99 1202		
Selenium	6010B	<0.005	-	0830	02/10/99 1202		
Silver	6010B	<0.005		0830	02/10/99 1202	1.	
Sodium	6010B	<0.100	_	02/04/99 0830	1202		
Zinc	6010B	0.018	mg/l	02/04/99 0830	02/10/99 1202	FTS	
Dissolved Copper	6010B	<0.005	mg/l	02/04/99 0830	02/10/99 1157	fts	

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CERTIFICATE OF ANALYSIS

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NC DEHNR No. 329

SC DHEC No. 32010

NEVADA GOLDFIELDS PO Box 1530 McCormick, SC 29

29835

Attention:

Client:

Scott Wilkinson

SHEALY Lab No: 157914

Description: D-3

Coll. Date: 02/04/99

Coll. Time:

Date Received: 02/05/99

Date Reported: 03/02/99

QA/QC Officer _____

V.P. Analytical MB

Well Depth Prom Top of Casing Nater Level Depth Prom Top of Casing Nater Level Depth Prom Top of Casing Nater Level Depth Prom Top of Casing St. 13.50 th. 15.01 th. 1	Parameters	Method	Result	Units	Date Prepared	Date Analyzed	Anal.
Matter Lewel Depth From Top of Casing 150.1 6.43 50 02/04/99 088 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988 988	Well Depth		81.00	£t.		02/04/99	gws
Specific Conductance at 25 C - Field 120.1 508 whose/em 02/04/99 GWS 120.1 19.0 C 02/04/99 GWS 170.1 19.0 C 02/04/99 GWS 170.1 19.0 C 02/04/99 GWS 120.1 19.0 C 12.1 12.0 C 12.1 12.1 C	- - ·		31.50	ft.			
Temperature-Field 170.1 19.0 C 02/04/99 GNS TINORGANICS Alkalinity Bicarbonate SM4500D 113 mg/l 02/13/99 NND 0934 0934 0934 0934 0934 0934 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 0936 09	pH-Field at 19.0 C	150.1	6.43	US		02/04/99	GWS
TNORGANTICS	Specific Conductance at 25 C - Field	120.1	508	umhos/cm		02/04/99	GWS
Mamonia N 350.3 c0.100 mg/1 02/09/99 EDN 0900 02/00 02/00 0900 02/00 02/00 0900 02/00 02/00 0900 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00 02/00		170.1	19.0	С		02/04/99	GWS
Chloride 300.0 78.5 mg/1 02/11/99 JPS 1400 Cyanide-Total 335.2 <0.010 mg/l 02/17/99 02/18/99 JPS 1400 Fluoride-Total 335.2 <0.050 mg/l 02/03/99 JPS 1200 Fluoride-Total 300.0 <0.500 mg/l 02/03/99 JPS 1200 Mitrate-N 353.2 0.122 mg/l 02/05/99 MWD 0398 Mitrite-N 354.1 <0.020 mg/l 02/05/99 MWD 0398 Sulfate 375.4 5.5 mg/l 02/05/99 JPS 1200 TOC 415.1 <1.00 mg/l 02/26/99 *** TDS 160.1 296 mg/l 02/05/99 MCM METALS Aluminum 6010B 0.281 mg/l 02/09/99 02/12/99 FTS 0830 1842 Arsenic 6010B 0.005 mg/l 02/09/99 02/12/99 FTS 0830 1842 Cadmium 6010B 0.005 mg/l 02/09/99 02/12/99 FTS 0830 1842 Cadmium 6010B 0.005 mg/l 02/09/99 02/12/99 FTS 0830 1842 Cadmium 6010B 0.000 mg/l 02/09/99 02/12/99 FTS 0830 1842 Calcium 6010B 0.000 mg/l 02/09/99 02/12/99 FTS 0830 1842 Chromium 6010B 0.009 mg/l 02/09/99 02/12/99 FTS 0830 1842 Chromium 6010B 0.009 mg/l 02/09/99 02/12/99 FTS 0830 1842 Copper 6010B 0.009 mg/l 02/09/99 02/12/99 FTS 0830 1842 Copper 6010B 0.009 mg/l 02/09/99 02/12/99 FTS 0830 1842 Copper 6010B 0.009 mg/l 02/09/99 02/12/99 FTS 0830 1842 Copper 6010B 0.009 mg/l 02/09/99 02/12/99 FTS 0830 1842 Copper 6010B 0.000 mg/l 02/09/99 02/12/99 FTS 0830 1842 Lead 6010B 0.000 mg/l 02/09/99 02/12/99 FTS 0830 1842 Lead 6010B 0.000 mg/l 02/09/99 02/12/99 FTS 0830 1842 Lead 6010B 0.000 mg/l 02/09/99 02/12/99 FTS 0830 1842 Lead 6010B 0.000 mg/l 02/09/99 02/12/99 FTS 0830 1842 Lead 6010B 0.000 mg/l 02/09/99 02/12/99 FTS 0830 1842 Lead 6010B 0.000 mg/l 02/09/99 02/12/99 FTS 0830 1842 Manganese 6010B 0.057 mg/l 02/09/99 02/12/99 FTS 0830 1842	Alkalinity Bicarbonate	8M4500D	113	mg/l			NWD
Cyanide-Total 335.2 c0.010 mg/l 02/17/99 02/12/99 JPS	Ammonia-N	350.3	<0.100	mg/l			EDN
Fluoride-Total 30.0 <0.500 mg/l 02/09/99 JPS 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1	Chloride	300.0	78.5	mg/l			JPS
Mitrate-N 353.2 0.122 mg/l 02/05/99 NND 0938 Mitrite-N 354.1 <0.020 mg/l 02/05/99 NND 0938 Mitrite-N 354.1 <0.020 mg/l 02/05/99 NND 0938 Mitrite-N 375.4 5.5 mg/l 02/09/99 JR 1200 TOC 415.1 <1.00 mg/l 02/26/99 *** TDS 160.1 296 mg/l 02/26/99 *** TDS 160.1 296 mg/l 02/09/99 MCM METALS	Cyanide-Total	335.2	<0.010	mg/l			JPS
Nitrate-N 353.2 0.122 mg/l 02/05/99 NND Nitrite-N 354.1 <0.020	Fluoride-Total	300.0	<0.500	mg/l			JPS
Sulfate 375.4 5.5 mg/l 02/09/99 JPS 1200 TOC 415.1 <1.00 mg/l 02/26/99 *** TDS 160.1 296 mg/l 02/08/99 MCM 1425 METALS Aluminum 6010B 0.281 mg/l 02/09/99 02/12/99 FTS 0830 1842 Arsenic 6010B <0.005 mg/l 02/09/99 02/12/99 FTS 0830 1842 Barium 6010B 0.005 mg/l 02/09/99 02/12/99 FTS 0830 1842 Cadmium 6010B 0.005 mg/l 02/09/99 02/12/99 FTS 0830 1842 Cadmium 6010B 0.000 mg/l 02/09/99 02/12/99 FTS 0830 1842 Calcium 6010B 49.6 mg/l 02/09/99 02/12/99 FTS 0830 1842 Chromium 6010B 0.009 mg/l 02/09/99 02/12/99 FTS 0830 1842 Chromium 6010B 0.009 mg/l 02/09/99 02/12/99 FTS 0830 1842 Chromium 6010B 0.009 mg/l 02/09/99 02/12/99 FTS 0830 1842 Chromium 6010B 0.009 mg/l 02/09/99 02/12/99 FTS 0830 1842 Copper 6010B <0.005 mg/l 02/09/99 02/12/99 FTS 0830 1842 Lead 6010B <0.005 mg/l 02/09/99 02/12/99 FTS 0830 1842 Lead 6010B 0.378 mg/l 02/09/99 02/12/99 FTS 0830 1842 Lead 6010B 0.003 mg/l 02/09/99 02/12/99 FTS 0830 1842 Magnesium 6010B 18.0 mg/l 02/09/99 02/12/99 FTS 0830 1842 Magnesium 6010B 18.0 mg/l 02/09/99 02/12/99 FTS 0830 1842 Manganese 6010B 0.057 mg/l 02/09/99 02/12/99 FTS	Nitrate-N	353.2	0.122	mg/l		02/05/99	NWD
Sulfate 375.4 5.5 mg/l 02/09/99 JP8 TOC 415.1 <1.00	Nitrite-N	354.1	<0.020	mg/l		• •	NWD
TOC TDS	Sulfate	375.4	5.5	mg/l		02/09/99	JPS
TDS	TOC	415.1	<1.00	mg/l			***
Aluminum 6010B 0.281 mg/l 02/09/99 02/12/99 FTS 0830 1842 Barium 6010B 0.005 mg/l 02/09/99 02/12/99 FTS 0830 1842 Barium 6010B 0.005 mg/l 02/09/99 02/12/99 FTS 0830 1842 Cadmium 6010B 0.005 mg/l 02/09/99 02/12/99 FTS 0830 1842 Calcium 6010B 0.002 mg/l 02/09/99 02/12/99 FTS 0830 1842 Calcium 6010B 49.6 mg/l 02/09/99 02/12/99 FTS 0830 1842 Chromium 6010B 0.009 mg/l 02/09/99 02/12/99 FTS 0830 1842 Copper 6010B 0.005 mg/l 02/09/99 02/12/99 FTS 0830 1842 Iron 6010B 0.378 mg/l 02/09/99 02/12/99 FTS 0830 1842 Lead 6010B 0.378 mg/l 02/09/99 02/12/99 FTS 0830 1842 Lead 6010B 0.003 mg/l 02/09/99 02/12/99 FTS 0830 1842 Lead Magnesium 6010B 18.0 mg/l 02/09/99 02/12/99 FTS 0830 1842 Manganese 6010B 0.005 mg/l 02/09/99 02/12/99 FTS	TDS	160.1	296	mg/l		02/08/99	
Aluminum 6010B 0.281 mg/l 02/09/99 02/12/99 FTS 0830 1842 Barium 6010B 0.005 mg/l 02/09/99 02/12/99 FTS 0830 1842 Barium 6010B 0.005 mg/l 02/09/99 02/12/99 FTS 0830 1842 Cadmium 6010B 0.005 mg/l 02/09/99 02/12/99 FTS 0830 1842 Calcium 6010B 0.002 mg/l 02/09/99 02/12/99 FTS 0830 1842 Calcium 6010B 49.6 mg/l 02/09/99 02/12/99 FTS 0830 1842 Chromium 6010B 0.009 mg/l 02/09/99 02/12/99 FTS 0830 1842 Copper 6010B 0.005 mg/l 02/09/99 02/12/99 FTS 0830 1842 Iron 6010B 0.378 mg/l 02/09/99 02/12/99 FTS 0830 1842 Lead 6010B 0.378 mg/l 02/09/99 02/12/99 FTS 0830 1842 Lead 6010B 0.003 mg/l 02/09/99 02/12/99 FTS 0830 1842 Lead Magnesium 6010B 18.0 mg/l 02/09/99 02/12/99 FTS 0830 1842 Manganese 6010B 0.005 mg/l 02/09/99 02/12/99 FTS	METAT.C						
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Arsenic 6010B <0.005 mg/l 02/09/99 02/12/99 FTS 0830 1842 Barium 6010B 0.005 mg/l 02/09/99 02/12/99 FTS 0830 1842 Cadmium 6010B <0.002 mg/l 02/09/99 02/12/99 FTS 0830 1842 Calcium 6010B 49.6 mg/l 02/09/99 02/12/99 FTS 0830 1842 Chromium 6010B 49.6 mg/l 02/09/99 02/12/99 FTS 0830 1842 Chromium 6010B 0.009 mg/l 02/09/99 02/12/99 FTS 0830 1842 Copper 6010B <0.005 mg/l 02/09/99 02/12/99 FTS 0830 1842 Iron 6010B 0.378 mg/l 02/09/99 02/12/99 FTS 0830 1842 Lead 6010B <0.003 mg/l 02/09/99 02/12/99 FTS 0830 1842 Lead 6010B <0.003 mg/l 02/09/99 02/12/99 FTS 0830 1842 Lead 6010B <0.003 mg/l 02/09/99 02/12/99 FTS 0830 1842 Magnesium 6010B 18.0 mg/l 02/09/99 02/12/99 FTS 0830 1842 Manganese 6010B 0.057 mg/l 02/09/99 02/12/99 FTS	YIGHTIGH	GOTOR	V.261	mg/I			219
Barium 6010B 0.005 mg/l 02/09/99 02/12/99 FTS 0830 1842 Cadmium 6010B <0.002 mg/l 02/09/99 02/12/99 FTS 0830 1842 Calcium 6010B 49.6 mg/l 02/09/99 02/12/99 FTS 0830 1842 Chromium 6010B 0.009 mg/l 02/09/99 02/12/99 FTS 0830 1842 Copper 6010B <0.005 mg/l 02/09/99 02/12/99 FTS 0830 1842 Iron 6010B 0.378 mg/l 02/09/99 02/12/99 FTS 0830 1842 Lead 6010B <0.003 mg/l 02/09/99 02/12/99 FTS 0830 1842 Lead 6010B <0.003 mg/l 02/09/99 02/12/99 FTS 0830 1842 Lead 6010B 0.378 mg/l 02/09/99 02/12/99 FTS 0830 1842 Magnesium 6010B 18.0 mg/l 02/09/99 02/12/99 FTS 0830 1842 Magnesium 6010B 0.057 mg/l 02/09/99 02/12/99 FTS	argenic .	6010B	~ 0 005	ma/1			r-s
Barium 6010B 0.005 mg/l 02/09/99 02/12/99 FTS 0830 1842 Cadmium 6010B <0.002 mg/l 02/09/99 02/12/99 FTS 0830 1842 Calcium 6010B 49.6 mg/l 02/09/99 02/12/99 FTS 0830 1842 Chromium 6010B 0.009 mg/l 02/09/99 02/12/99 FTS 0830 1842 Copper 6010B 0.005 mg/l 02/09/99 02/12/99 FTS 0830 1842 Iron 6010B 0.378 mg/l 02/09/99 02/12/99 FTS 0830 1842 Lead 6010B 0.378 mg/l 02/09/99 02/12/99 FTS 0830 1842 Lead 6010B 0.378 mg/l 02/09/99 02/12/99 FTS 0830 1842 Lead 6010B 0.003 mg/l 02/09/99 02/12/99 FTS 0830 1842 Lead 6010B 0.003 mg/l 02/09/99 02/12/99 FTS 0830 1842 Magnesium 6010B 18.0 mg/l 02/09/99 02/12/99 FTS 0830 1842	AL PULL	44145	~0.005	<u> </u>		• -•	
Cadmium 6010B c0.002 mg/l 02/09/99 02/12/99 FTS 0830 1842 0830 1842 Calcium 6010B 49.6 mg/l 02/09/99 02/12/99 FTS 0830 1842 Chromium 6010B 0.009 mg/l 02/09/99 02/12/99 FTS 0830 1842 Copper 6010B c0.005 mg/l 02/09/99 02/12/99 FTS 0830 1842 Iron 6010B 0.378 mg/l 02/09/99 02/12/99 FTS 0830 1842 Itead 6010B c0.003 mg/l 02/09/99 02/12/99 FTS 0830 1842 Lead Magnesium 6010B 18.0 mg/l 02/09/99 02/12/99 FTS 0830 1842 Magnesium 6010B 18.0 mg/l 02/09/99 02/12/99 FTS 0830 1842 Magnesium 6010B 18.0 mg/l 02/09/99 02/12/99 FTS 0830 1842 Magnesium 6010B 18.0 mg/l 02/09/99 02/12/99 FTS 0830 1842	Barium	6010B	0.005	mg/l			FTS
Calcium 6010B 49.6 mg/l 02/09/99 02/12/99 FTS 0830 1842 Chromium 6010B 0.009 mg/l 02/09/99 02/12/99 FTS 0830 1842 Copper 6010B <0.005 mg/l 02/09/99 02/12/99 FTS 0830 1842 Iron 6010B 0.378 mg/l 02/09/99 02/12/99 FTS 0830 1842 Lead 6010B <0.003 mg/l 02/09/99 02/12/99 FTS 0830 1842 Lead 6010B <0.003 mg/l 02/09/99 02/12/99 FTS 0830 1842 Magnesium 6010B 18.0 mg/l 02/09/99 02/12/99 FTS 0830 1842 Magnesium 6010B 18.0 mg/l 02/09/99 02/12/99 FTS 0830 1842 Magnesium 6010B 0.057 mg/l 02/09/99 02/12/99 FTS			• • • • • •	3	• •		
Calcium 6010B 49.6 mg/l 02/09/99 02/12/99 FTS 0830 1842 Chromium 6010B 0.009 mg/l 02/09/99 02/12/99 FTS 0830 1842 Copper 6010B <0.005 mg/l 02/09/99 02/12/99 FTS 0830 1842 Iron 6010B 0.378 mg/l 02/09/99 02/12/99 FTS 0830 1842 Lead 6010B <0.003 mg/l 02/09/99 02/12/99 FTS 0830 1842 Lead 6010B <0.003 mg/l 02/09/99 02/12/99 FTS 0830 1842 Magnesium 6010B 18.0 mg/l 02/09/99 02/12/99 FTS 0830 1842 Manganese 6010B 0.057 mg/l 02/09/99 02/12/99 FTS	Cadmium	6010B	<0.002	mg/l	02/09/99	02/12/99	FTS
Chromium 6010B 0.009 mg/l 02/09/99 02/12/99 FTS 0830 1842 Copper 6010B 0.005 mg/l 02/09/99 02/12/99 FTS 0830 1842 Iron 6010B 0.378 mg/l 02/09/99 02/12/99 FTS 0830 1842 Lead 6010B 0.378 mg/l 02/09/99 02/12/99 FTS 0830 1842 Lead 6010B 0.003 mg/l 02/09/99 02/12/99 FTS 0830 1842 Magnesium 6010B 18.0 mg/l 02/09/99 02/12/99 FTS 0830 1842 Manganese 6010B 0.057 mg/l 02/09/99 02/12/99 FTS				•	0830	1842	
Chromium 6010B 0.009 mg/l 02/09/99 02/12/99 FTS 0830 1842 Copper 6010B 0.378 mg/l 02/09/99 02/12/99 FTS 0830 1842 Iron 6010B 0.378 mg/l 02/09/99 02/12/99 FTS 0830 1842 Lead 6010B 0.003 mg/l 02/09/99 02/12/99 FTS 0830 1842 Magnesium 6010B 18.0 mg/l 02/09/99 02/12/99 FTS 0830 1842 Magnesium 6010B 18.0 mg/l 02/09/99 02/12/99 FTS 0830 1842 Manganese 6010B 0.057 mg/l 02/09/99 02/12/99 FTS	Calcium	6010B	49.6	mg/l	02/09/99	02/12/99	fts
Copper 6010B <0.005 mg/l 02/09/99 02/12/99 FTS 0830 1842 Iron 6010B 0.378 mg/l 02/09/99 02/12/99 FTS 0830 1842 Lead 6010B <0.003 mg/l 02/09/99 02/12/99 FTS 0830 1842 Lead 6010B <0.003 mg/l 02/09/99 02/12/99 FTS 0830 1842 Magnesium 6010B 18.0 mg/l 02/09/99 02/12/99 FTS 0830 1842 Manganese 6010B 0.057 mg/l 02/09/99 02/12/99 FTS					0830	1842	
Copper 6010B <0.005 mg/l 02/09/99 02/12/99 FTS 1ron 6010B 0.378 mg/l 02/09/99 02/12/99 FTS 0830 1842 Lead 6010B <0.003	Chromium	6010B	0.009	mg/l			FTS
Iron 6010B 0.378 mg/l 02/09/99 02/12/99 FTS 1842 Lead 6010B <0.003	Copper	6010B	<0.005	mg/l	02/09/99	02/12/99	FTS
Lead 6010B <0.003 mg/l 02/09/99 02/12/99 FTS 0830 1842 Magnesium 6010B 18.0 mg/l 02/09/99 02/12/99 FTS 0830 1842 Manganese 6010B 0.057 mg/l 02/09/99 02/12/99 FTS	Iron	6010B	0.378	mg/l	02/09/99	02/12/99	FTS
0830 1842 Magnesium 6010B 18.0 mg/l 02/09/99 02/12/99 FTS 0830 1842 Manganese 6010B 0.057 mg/l 02/09/99 02/12/99 FTS	_ •			*-			
Magnesium 6010B 18.0 mg/l 02/09/99 02/12/99 FTS 0830 1842 Manganese 6010B 0.057 mg/l 02/09/99 02/12/99 FTS	Lead	6010B	<0.003	mg/l			FTS
Manganese 6010B 0.057 mg/l 02/09/99 02/12/99 FTS	Magnesium	6010B	18.0	mg/1			FTS
				=			
	Manganese	6010B	0.057	mg/l			FTS

Page 2 (Continuation of 157914)

Parameters	Method	Result	Units	Date Prepared	Date Analyzed	Anal.		14.7°
Mercury	7470A	<0.0001	mg/l	02/11/99 0830	02/12/99 0900	FTC		
Nickel	6010B	0.018	mg/l	02/09/99 0830	02/12/99 1842	FTS		
Potassium	6010B	1.28	mg/l	02/09/99 0830	02/17/99 153 5	FTS		
Selenium	6010B	<0.005	mg/l	02/09/99 0830	02/12/99 1842	FTS		
Silver	6010B	<0.005	mg/l	02/09/99 0830	02/12/99 1842	pts		
Sodium	6010B	21.6	mg/l	02/09/99 0830	02/12/99 1842	fts	÷	
Zinc	6010B	0.025	mg/l	02/09/99 0830	02/12/99 1842	FTS		
Dissolved Copper	6010B	<0.005	mg/l	02/09/99 0830	02/12/99 1837	fts		

Scientists and Consultants

106 VANTAGE POINT DRIVE CAYCE, SOUTH CAROLINA 29033

CERTIFICATE OF ANALYSIS

(803) 791-9700 FAX (803) 791-9111 www.shealyenvironmental.com

NC DEHNR No. 329

SC DHEC No. 32010

NEVADA GOLDFIELDS PO Box 1530 McCormick, SC 29

29835

Attention:

Client:

Scott Wilkinson

SHEALY Lab No: 157917

Description: GW-N

Coll. Date: 02/04/99 Coll. Time:

Date Received: 02/05/99 Date Reported: 03/02/99 QA/QC Officer ______

V.P. Analytical MA

				Date	Date	
Parameters	Method	Result	Units	Prepared	Analyzed	Anal.
Well Depth		27.02	ft.		02/04/99	GWS
Water Level Depth From Top of Casing		12.0	ft.		02/04/99	GWS
pH-Field at 17.0 C	150.1	6.86	SU		02/04/99	GWS
Specific Conductance at 25 C - Field	120.1	472	umhos/cm		02/04/99	
Temperature-Field INORGANICS	170.1	17.0	C		02/04/99	GWS
Alkalinity Bicarbonate	8M4500D	168	mg/l		02/13/99 0934	NWD
Ammonia-N	350.3	<0.100	mg/l		02/09/99 0900	EDN
Chloride	300.0	53.5	mg/l		02/11/99 1400	JPS
Cyanide-Total	335.2	<0.010	mg/l	02/17/99 0830	02/18/99 1200	JPS .
Fluoride-Total	300.0	<0.500	mg/l		02/09/99 1200	JPS
Nitrate-N	353.2	0.100	mg/l		02/05/99 0938	NWD
Nitrite-N	354.1	<0.020	mg/l		02/05/99 0938	NWD
Sulfate	375.4	23.4	mg/l		02/09/99	JPS
TOC	415.1	<1.00	mg/l		02/26/99	***
TDS	160.1	52	mg/l		02/08/99 1425	MCM
METALS						
Aluminum	6010B	0.487	/1	02/09/99	00/10/00	TEM 6
ALUMINUM	GOTOR	0.407	mg/ L			FTS
2mondo	C010D	-0 005	/1	0830	1928	7000
Arsenic	6010B	<0.005	mg/1	02/09/99	1928	FTS
Barium	6010D	0 006	/1	0830		vima.
Barium	6010B	0.006	mg/ T	02/09/99 0830	1928	FTS
Cadmium	6010B	<0.002	/1	02/09/99		TEMO
Cadmitum	GATAR	₹0.002	mg/ I			F18
Calcium	6010B	32.3	/1	0830	1928	TOTAL C
Calcim	POTAR	34.3	mg/1	02/09/99	1928	FIS
Chromium	6010B	<0.005	/1	0830		wma
Cittomtom	90108	₹0.003	шу/т	02/09/99 0830	1928	F18
Copper	6010B	<0.005	ma/1	02/09/99		b ma
copper	00100	20.005	ш9/1	0830	1928	F 1 9
Iron	6010B	0.267	ma/1	02/09/99		PPG
	00100	0.207	mg/ 1	0830	1928	F10
Lead	6010B	<0.003	ma/l	02/09/99		urg
-446	00100	~~		0830	1928	***
Magnesium	6010B	26.4	ma/1	02/09/99		PTS
			3, 4	0830	1928	
Manganese	6010B	0.026	ma/l	02/09/99		PTS
				0830	1928	-

Page 2 (Continuation of 157917)

Parameters	Method	Result	Units	Date Prepared	Date Analyzed	Anal.		· ••=
Mercury	7470A	<0.0001	mg/l	02/11/99 0830	02/12/99	FTC	<u> </u>	
Nickel	6010B	<0.010	mg/l	02/09/99 0830	02/12/99 1928	PTS		
Potassium	6010B	0.714	mg/l	02/09/99 0830	02/17/99 1543	fts		
Selenium	6010B	<0.005	mg/l	02/09/99 0830	02/12/ <u>9</u> 9 1928	FTS		
Silver	6010B	<0.005	mg/l	02/09/99 0830	02/12/99 1928	FTS		
Sodium	6010B	43.0	mg/l	02/09/99 0830	02/12/99 1928	FTS	æ	
Zinc	6010B	0.014	mg/l	02/09/99 0830	02/12/99 1928	fts		
Dissolved Copper	6010B	<0.005	mg/l	02/09/99 0830	02/12/99 1923	FTS		

Scientists and Consultants

106 VANTAGE POINT DRIVE CAYCE, SOUTH CAROLINA 29033

CERTIFICATE OF ANALYSIS

(803) 791-9700 FAX (803) 791-9111 www.shealyenvironmental.com

SC DHEC No. 32010

NC DEHNR No. 329

Client:

NEVADA GOLDFIELDS PO Box 1530 McCormick, SC 29

29835

Attention:

Scott Wilkinson

SHEALY Lab No: 157519

Description: GW 0

Coll. Date: 02/02/99 Coll. Time: 1420

Date Received: 02/02/99 Date Reported: 02/18/99 Date Revised: 03/26/99 QA/QC Officer have

V.P. Analytical

Parameters	Method	Result	Units	Date Prepared	Date Analyzed	Anal.
				<u> </u>		
Well Depth		28.62 20.05	ft. ft.		02/02/99	
Water Level Depth From Top of Casing	150 1	6.70	SU		02/02/99	
pH-Field at 17.0 C Specific Conductance at 25 C - Field	150.1 120.1	390			02/02/99 02/02/99	
		17.0	C C		*- *-	
Temperature-Field INORGANICS	170.1	17.0	C		02/02/99	GHS
Alkalinity Bicarbonate	SM4500D	128	mg/l		02/03/99	NINT
Attailinity bicalbonate	BM4300D	220	g/ -		1344	
Ammonia-N	350.3	0.313	mg/l		02/04/99	MCM
	334.5	*****	—g/ =		0830	
Chloride	300.0	69.8	mg/l		02/09/99	JPS
4-12-02-2-00			3/ -		1200	
Cyanide-Total	335.2	<0.010	ma/l	02/15/99		JPS
-7			-3, -	0800	1000	
Fluoride-Total	300.0	<0.500	mg/l		02/04/99	JPS '
			•		1300	
Nitrate-N	353.2	0.120	mg/1		02/02/99	NWD
			-		0940	
Nitrite-N	354.1	0.023	mg/l		02/02/99	NWD
			_		0940	
Sulfate	300.0	32.3	mg/l		02/04/99	JPS
					1300	
TOC	415.1	<1.0	mg/1		02/16/99	JPS
					0800	
TDS	160.1	334	mg/l		02/03/99	MCM
					1530	
leans r. e						
METALS						
Aluminum	6010B	0.352	mg/l	02/04/99		FTS
				0830	1514	
Arsenic	6010B	<0.005	mg/l	02/04/99		FTS
De la constantina della consta	ca.		/9	0830	1514	
Barium	6010B	0.018	mg/1	02/04/99		FTB
Cadmium	6010B	<0.002	/1	0830	1514	WMC
Cacultum	GOTOR	₹0.002	mg/1	02/04/99	1514	FIS
Calcium	6010B	42.5	ma/1	0830 02/04/99		PAC .
Calcium	90109	72.5	mg/I	0830	1514	F15
Chromium	6010B	<0.005	ma/1	02/04/99		PTC
O41 Om I din	00100	~0.00	9 , -	0830	1514	
Copper	6010B	<0.005	ma/1	02/04/99		FTS
	***************************************		-5, -	0830	1514	
Iron	6010B	0.078	mg/l	02/04/99		FTS
 -			3,	0830	1514	
Lead	6010B	<0.003	mg/l	02/04/99		FTS
			J , –	0830	1514	
Magnesium	6010B	22.8	mg/l	02/04/99	02/10/99	FTS
				0830	1514	

Page 2 (Continuation of 157519)

Parameters	Method	Result	Units	Date Prepared	Date Analyzed	Anal.		. 405
Manganese	200.7	<0.010	mg/l	02/04/99	02/10/99 1514	FTS		
Mercury	7470A	<0.0002	mg/l	02/17/99 0830	02/17/99 1500	FTC		
Nickel	6010B	<0.010	mg/l	02/04/99 0830	02/10/99 1514	FTS		
Potassium	6010B	1.40	mg/l	02/04/99 0830	02/10/99 1514	FTS		
Selenium	6010B	<0.005	mg/l	02/04/99 0830	02/10/99 1514	FTS		
Silver	6010B	<0.005	mg/l	02/04/99 0830	02/10/99 1514	FTS	>	
Sodium	6010B	27.3	mg/l	02/04/99 0830	02/10/99 1514	FTS		
Zinc	6010B	0.011	mg/l	02/04/99 0830	02/10/99 1514	FTS		
Dissolved Copper	6010B	<0.005	mg/l	02/04/99 0830	02/10/99 1308	FTS		

Scientists and Consultants

106 VANTAGE POINT DRIVE **CAYCE, SOUTH CAROLINA 29033**

CERTIFICATE OF ANALYSIS

(803) 791-9700 FAX (803) 791-9111 www.shealyenvironmental.com

SC DHEC No. 32010

NC DEHNR No. 329

Client:

NEVADA GOLDFIELDS PO Box 1530 McCormick, SC 29

29835

Attention:

Scott Wilkinson

SHEALY Lab No: 157518 Description: GW 5

Coll. Date: 02/02/99 Coll. Time: 1330

Date Received: 02/02/99 Date Reported: 02/18/99 Date Revised: 03/26/99

QA/QC Officer _____ V.P. Analytical MA

				Date	Date	
Parameters	Method	Result	Units	Prepared	Analyzed	Anal.
Well Depth		37.80	ft.		02/02/99	GWS
Water Level Depth From Top of Casing		10.80	ft.		02/02/99	GWS
pH-Field at 15.0 C	150.1	7.10	នប		02/02/99	GWS
Specific Conductance at 25 C - Field	120.1	371	umhos/cm		02/02/99	GWS
Temperature-Field INORGANICS	170.1	15.0	С		02/02/99	GWS
Alkalinity Bicarbonate	SM4500D	177	mg/l		02/03/99 1344	NWD
Ammonia-N	350.3	0.452	mg/l		02/04/99 0830	MCM
Chloride	300.0	45.7	mg/l		02/04/99	JPS
Cyanide-Total	335.2	<0.010	mg/l	02/15/99 0800		JPS
Fluoride-Total	300.0	<0.500	mg/l		02/04/99	JPS `
Nitrate-N	353.2	0.035	mg/l		02/02/99	NWD
Nitrite-N	354.1	0.028	mg/l		02/02/99	MWD
Sulfate	300.0	9.54	mg/l		02/04/99	JPS
TOC	415.1	<1.0	mg/l		02/16/99	JPS
TDS	160.1	268	mg/l		02/03/99	MCM
METALS						
Aluminum	6010B	8.68	mg/l	02/04/99 0830	02/10/99 1303	FTS
Arsenic	6010B	<0.005	mg/l	02/04/99	02/10/99	FTS
Barium	6010B	0.538	ma /1	0830 02/04/99	1303	'ama
24114m	00108	0.336	шу/ т	0830	1303	£19
Cadmium	6010B	<0.002	ma/1	02/04/99		r-c
	00202	~~~~~	97	0830	1303	
Calcium	6010B	61.5	mg/l	02/04/99		FTS
Chromium	6010B	0.009	mg/l	02/04/99	02/10/99	FTS
Copper	6010B	0.038	mg/1	0830 02/04/99		FTS
Iron	6010B	9.83	mg/l	0830 02/04/99	1303 02/10/99	FTS
				0830	1303	
Lead	6010B	0.006	mg/l	02/04/99 0830	02/10/99 1303	FTS
Magnesium	6010B	35.5	mg/l	02/04/99 0830	02/10/99 1303	FTS

Page 2 (Continuation of 157518)

Parameters	Method	Result	Units	Date Prepared	Date Analyzed	Anal.
Manganese	200.7	2.78	mg/l	02/04/99 0830	02/10/99	FTS
Mercury	7470A	<0.0002	mg/l	02/17/99 0830	02/17/99 1500	FTC
Nickel	6010B	0.028	mg/l	02/04/99 0830	02/10/99 130 <u>3</u>	FTS
Potassium	6010B	0.833	•	02/04/99 0830	1303	
Selenium	6010B	<0.005		02/04/99 0830	1303	
Silver	6010B	<0.005		02/04/99 0830	1303	
Sodium	6010B	29.4		02/04/99 0830	1303	
Zinc	6010B	0.100	•	02/04/99 0830	1303	
Dissolved Copper	6010B	<0.005	mg/l	02/04/99 0830	02/10/99 1258	FTS

Scientists and Consultants

106 VANTAGE POINT DRIVE **CAYCE, SOUTH CAROLINA 29033**

CERTIFICATE OF ANALYSIS

(803) 791-9700 FAX (803) 791-9111 www.shealyenvironmental.com

SC DHEC No. 32010

NC DEHNR No. 329

Client:

NEVADA GOLDFIELDS PO Box 1530 McCormick, SC 29

29835

Attention:

Scott Wilkinson

SHEALY Lab No: 157517

Description: L-2

Coll. Date: 02/02/99 Coll. Time: 1255

Date Received: 02/02/99

Date Reported: 02/18/99 Date Revised: 03/26/99 QA/QC Officer /

V.P. Analytical MP

				Date	Date	
Parameters	Method	Result	Units	Prepared		Anal.
Well Depth		81.91	ft.		02/02/99	GWS
Water Level Depth From Top of Casing		30.10	ft.		02/02/99	
pH-Field at 17.0 C	150.1	6.96	នប		02/02/99	
Specific Conductance at 25 C - Field		319			02/02/99	
Temperature-Field INORGANICS	170.1	17.0	C		02/02/99	
Alkalinity Bicarbonate	SM4500D	132	mg/l		02/03/99 1344	NWD
Ammonia-N	350.3	0.321	mg/l		02/04/99 0830	WCM
Chloride	300.0	42.3	mg/l		02/09/99 1200	JPS
Cyanide-Total	335.2	<0.010	mg/l	02/15/99 0800		JPS
Fluoride-Total	300.0	<0.500	mg/l	•	02/04/99	JPS '
Nitrate-N	353.2	0.127	mg/l		02/02/99	NWD
Nitrite-N	354.1	<0.020	mg/l		02/02/99	NWD
Sulfate	300.0	4.97	mg/l		02/04/99	JPS
TOC	415.1	<1.0	mg/l		02/16/99 0800	JPS
TDS	160.1	340	mg/1		02/03/99 1530	мсм
\max 0						
METALS Aluminum	6010B	0.110	mg/l	02/04/99		FTS
Arsenic	6010B	<0.005	mg/l	0830 02/04/99 0830	1253 02/10/99 1253	FTS
Barium	6010B	<0.005	mg/l	02/04/99		FTS
Cadmium	6010B	<0.002	mg/l	02/04/99 0830		FTS
Calcium	6010B	47.0	mg/l	02/04/99 0830		FTS
Chromium	6010B	<0.005	mg/l	02/04/99 0830		FTS
Copper	6010B	<0.005	mg/l	02/04/99 0830		fts
Iron	6010B	<0.050	mg/l	02/04/99 0830		FTS
Lead	6010B	<0.003	mg/l	02/04/99 0830		FTS
Magnesium	6010B	16.8	mg/l	02/04/99 0830		FTS

Page 2 (Continuation of 157517)

Parameters	Method	Result	Units	Date Prepared	Date Analyzed	Anal.	
Manganese	200.7	<0.010	mg/1	02/04/99 0830	02/10/99 1253	FTS	
Mercury	7470A	<0.0002	mg/l	02/17/99 0830	02/17/99 1500	FTC	
Nickel	6010B	<0.010	mg/l	02/04/99 0830	1253		
Potassium	6010B	0.343		02/04/99 0830	1253		
Selenium	6010B	<0.005		02/04/99 0830	1253		
Silver	6010B	<0.005	•	02/04/99 0830	1253		
Sodium	6010B	18.6	-	02/04/99 0830	1253		
Zinc	6010B	<0.005	•	02/04/99 0830	1253		
Dissolved Copper	6010B	<0.005	mg/l	02/04/99 0830	02/10/99 1248	FTS	

Scientists and Consultants

106 VANTAGE POINT DRIVE **CAYCE, SOUTH CAROLINA 29033**

CERTIFICATE OF ANALYSIS

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SC DHEC No. 32010

NEVADA GOLDFIELDS PO Box 1530 McCormick, SC 29

29835

Attention:

Client:

Scott Wilkinson

SHEALY Lab No: 157918

Description: F-3

Coll. Date: 02/04/99

Coll. Time:

Date Received: 02/05/99 Date Reported: 03/02/99 QA/QC Officer ______

V.P. Analytical

				Date	Date	
Parameters	Method	Result	Units	Prepared	Analyzed	Anal.
Well Depth		71.35	ft.		02/04/99	GWS
Water Level Depth From Top of Casing		42.45	ft.		02/04/99	GWS
pH-Field at 18.0 C	150.1	5.63	នប		02/04/99	GWS
Specific Conductance at 25 C - Field	120.1	58	umhos/cm		02/04/99	GWS
Temperature-Field INORGANICS	170.1	18.0	С		02/04/99	GWS
Alkalinity Bicarbonate	SM4500D	<10.0	mg/l		02/13/99 0934	NWD
Ammonia-N	350.3	<0.100	mg/l		02/09/99	EDN
Chloride	300.0	3.87	mg/l		02/09/99	JPS
Cyanide-Total	335.2	<0.010	mg/l	02/17/99 0830		JPS /
Fluoride-Total	300.0	<0.500	mg/l		02/09/99	JPS
Nitrate-N	353.2	0.066	mg/l		02/05/99 0938	NWD
Nitrite-N	354.1	<0.020	mg/l		02/05/99 0938	NWD
Sulfate	375.4	5.94	mg/l		02/09/99	JPS
TOC	415.1	<1.00	mg/l		02/26/99	***
TDS	160.1	32	mg/l		02/08/99 1425	
METALS						
	40.00		/=	/ /	/ /	
Aluminum	6010B	0.167	mg/l	02/09/99		FTS
•				0830	1938	
Arsenic	6010B	<0.005	mg/1	02/09/99		FTB
Barium	6010B	0.114	/1	0830 02/09/99	1938	vam 6
BOT 1 AW	GOTOB	0.114	mg/1	02/03/33	1938	FIB
Cadmium	6010B	<0.002	ma/1	02/09/99		TTG.
orani an	00100	70.002	mg/ I	0830	1938	215
Calcium	6010B	2.19	ma/1	02/09/99		TTS
~~~~~~	***************************************		-9/ -	0830	1938	
Chromium	6010B	<0.005	mg/1	02/09/99		FTS
				0830	1938	
Copper	6010B	0.012	mg/1	02/09/99 0830	02/12/99 1938	PTS
Iron	6010B	0.133	mg/1	02/09/99		FTS
				0830	1938	
Lead	6010B	<0.005	mg/l	02/09/99 0830	02/12/99 1938	FTS
Magnesium	6010B	1.16	mg/l	02/09/99	02/12/99	PTS
				0830	1938	
Manganese	6010B	0.018	mg/l	02/09/99 0830	02/12/99 1938	fts

Page 2 (Continuation of 157918)

Parameters	Method	Result	Units	Date Prepared	Date Analyzed	Anal.		90 F*
Mercury	7470A	0.001	mg/l	02/11/99 0830	02/12/99 0900	FTC		
Nickel	6010B	<0.010	mg/l	02/09/99 0830	02/12/99 1938	fts		
Potassium	6010B	0.424	•	0830	02/17/99 1546			
Selenium	6010B	<0.005		0830	02/12/ <del>99</del> 1938			
Silver	6010B	<0.005	•	0830	02/12/99 1938			
Sodium	6010B	2.83	<b>.</b>	0830	02/12/99 1938		d.	
Zinc	6010B	0.039	•	0830	02/12/99 1938			
Dissolved Copper	6010B	0.007	mg/l	02/09/99 0830	02/12/99 1933	FTS		

Scientists and Consultants

106 VANTAGE POINT DRIVE CAYCE, SOUTH CAROLINA 29033

**CERTIFICATE OF ANALYSIS** 

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NC DEHNR No.

SC DHEC No. 32010

NEVADA GOLDFIELDS PO Box 1530 McCormick, SC 29

29835

Attention:

Client:

Scott Wilkinson

SHEALY Lab No: 157916

Description: GW-6

Coll. Date: 02/04/99

Coll. Time:

Date Received: 02/05/99 Date Reported: 03/02/99 QA/QC Officer ~~~

V.P. Analytical MA

				Date	Date	
Parameters	Method	Result	Units		Analyzed	Anal.
Well Depth		28.40	ft.		02/04/99	GWS
Water Level Depth From Top of Casing		2.65	ft.		02/04/99	GMS
pH-Field at 19.0 C	150.1	6.47	US		02/04/99	gws
Specific Conductance at 25 C - Field	120.1	226	umhos/cm		02/04/99	GWS
Temperature-Field INORGANICS	170.1	19.0	С		02/04/99	GWS
Alkalinity Bicarbonate	SM4500D	68.8	mg/l		02/13/99 0934	NWD
Ammonia-N	350.3	<0.100	mg/l		02/09/99 0900	EDN
Chloride	300.0	28.5	mg/l		02/09/99 1200	JPS
Cyanide-Total	335.2	0.011	mg/l	02/17/99 0830		
Fluoride-Total	300.0	<0.500	mg/l		02/09/99	JPS
Nitrate-N	353.2	<0.020	mg/l		02/05/99 0938	NWD
Nitrite-N	354.1	<0.020	mg/l		02/05/99 0938	NWD
Sulfate	375.4	8.82	mg/l		02/09/99	JPS
TOC	415.1	<1.00	mg/l		02/26/99	***
TDS	160.1	84	mg/l		02/08/99	
METALS						
Aluminum	6010B	0.438	mg/l	02/09/99	02/12/99	FTS
				0830	1918	
Arsenic	6010B	<0.005	mg/l	02/09/99	02/12/99	FTS
				0830	1918	
Barium	6010B	0.015	mg/l	02/09/99	02/12/99	FTS
				0830	1918	
Cadmium	6010B	<0.002	mg/l	02/09/99	02/12/99	FTS
				0830	1918	
Calcium	6010B	14.8	mg/l	02/09/99	02/12/99	FTS
				0830	1918	
Chromium	6010B	<0.005	mg/l	02/09/99 0830	02/12/99 1918	FTS
Copper	6010B	<0.005	mg/l	02/09/99	02/12/99	FTS
_				0830	1918	
Iron	6010B	0.462	mg/l	02/09/99 0830	1918	FTS
Lead	6010B	<0.005	mg/l	02/09/99 0830	02/12/99 1918	FTS
Magnesium	6010B	7.48	mg/l	02/09/99 0830		FTS
Manganese	6010B	0.052	mg/l	02/09/99 0830		FTS

Page 2 (Continuation of 157916)

Parameters	Method	Result	Units	Date Prepared	Date Analyzed	Anal.	 ***
Mercury	7470A	<0.0001	mg/l	02/11/99 0830	02/12/99 0900	FTC	
Nickel	6010B	<0.010	mg/l	02/09/99 0830	02/12/99 1918	FTS	
Potassium	6010B	0.435	mg/l	02/09/99 0830	02/17/99 1540	FTS	
Selenium	6010B	<0.005	mg/l	02/09/99 0830	02/12 <u>/9</u> 9 1918	FTS	
Silver	6010B	<0.005		02/09/99 0830	1918		
Sodium	6010B	20.3	•	02/09/99 0830	1918		
Ziņc	- 6010B	0.014	•	02/09/99 0830	1918		
Dissolved Copper	6010B	<0.005	mg/l	02/09/99 0830	02/12/99 1913	fts	

Scientists and Consultants

106 VANTAGE POINT DRIVE CAYCE, SOUTH CAROLINA 29033

**CERTIFICATE OF ANALYSIS** 

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NC DEHNR No. 329

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SC DHEC No. 32010

NEVADA GOLDFIELDS PO Box 1530 McCormick, SC 29

29835

Attention:

Client:

Scott Wilkinson

SHEALY Lab No: 157915

Description: B-2

Coll. Date: 02/04/99 Coll. Time:

Date Received: 02/05/99

Date Reported: 03/02/99

QA/QC Officer _____

V.P. Analytical _

				Date	Date	
Parameters	Method	Result	Units		Analyzed	Anal.
Well Depth		121.00	£t.		02/04/99	GWS
Water Level Depth From Top of Casing		19.65	ft.		02/04/99	GWS
pH-Field at 18.0 C	150.1	6.84	SU		02/04/99	GWS
Specific Conductance at 25 C - Field		231	umhos/cm		02/04/99	
Temperature-Field INORGANICS	170.1	18.0	C		02/04/99	
Alkalinity Bicarbonate	SM4500D	112	mg/l		02/13/99 0934	NWD
Ammonia-N	350.3	<0.100	mg/l		02/09/99 0900	EDN
Chloride	300.0	9.09	mg/l		02/09/99 1200	JPS
Cyanide-Total	335.2	0.011	mg/l	02/17/99 0830	02/18/99 1200	JPS
Fluoride-Total	300.0	<0.500	mg/l		02/09/99 1200	
Nitrate-N	353.2	0.027	mg/l		02/05/99 0938	NWD
Nitrite-N	354.1	<0.020	mg/l		02/05/99 0938	NWD
Sulfate	375.4	10.1	mg/l		02/09/99 1200	
TOC	415.1	<1.00	mg/l		02/26/99	***
TDS	160.1	172	mg/l		02/08/99 1425	MCM
METALS						
Aluminum	6010B	0.193	mg/l	02/09/99 0830	02/12/99	FTS
Arsenic	6010B	<0.005	mg/l	02/09/99		PTS
Barium	6010B	0.189	mg/l	02/09/99		FTS
Cadmium	6010B	<0.002	mg/l	02/09/99 0830	02/12/99 1908	FTS
Calcium	6010B	38.5	mg/l	02/09/99 0830	02/12/99 1908	PTS
Chromium	6010B	<0.005	mg/l	02/09/99 0830	02/12/99 1908	FTS
Copper	6010B	<0.005	mg/l	02/09/99 0830	02/12/99 1908	FTS
Iron	6010B	1.05	mg/l	02/09/99 0830	02/12/99 1908	FTS
Lead	6010B	<0.003	•	02/09/99 0830	1908	
Magnesium	6010B	5.68	mg/l	02/09/99 0830	02/12/99 1908	FTS
Manganese	6010B	0.395	mg/l	02/09/99 0830	02/12/99 1908	FTS

Page 2 (Continuation of 157915)

Parameters	Method	Result	Units	Date Prepared	Date Analyzed	Anal.	
Mercury	7470A	<0.0001	mg/l	02/11/99 0830	02/12/99 0900	FTC	· —
Nickel	6010B	<0.010	mg/l	02/09/99 0830	02/12/99 1908	fts	
Potassium	6010B	1.88	mg/l	02/09/99 0830	02/17/99 1540	FTS	
Selenium	6010B	<0.005		02/09/99 0830	1908		
Silver	6010B	<0.005	•	02/09/99 0830	1908		
Sodium	6010B	11.6	•	02/09/99 0830	1908		<b>→</b> .
Zinc	6010B	0.035		02/09/99 0830	1908		
Dissolved Copper	6010B	<0.005	mg/l	02/09/99 0830	02/12/99 1847	FTS	

Scientists and Consultants

106 VANTAGE POINT DRIVE CAYCE, SOUTH CAROLINA 29033

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SC DHEC No. 32010

NEVADA GOLDFIELDS PO Box 1530 McCormick, SC 29

29835

Attention:

Client:

Scott Wilkinson

SHRALY Lab No: 157919

Description: D3A

Coll. Date: 02/04/99 Coll. Time:

Date Received: 02/05/99 Date Reported: 02/18/99 QA/QC Officer ---

V.P. Analytical MB

				Date	Date	
Parameters	Method	Result	Units		Analyzed	Anal.
METALS		_				
Aluminum	6010B	0.230	ma/1	02/09/99	02/12/99	FTS
				0830	1949	
Arsenic	6010B	<0.005	mg/1	02/09/99		FTS
Barium	6010B	0.007	mc/1	0830 02/09/99	1949	FTS
	30102	0.007		0830	1949	
Cadmium	6010B	<0.002	mg/1	02/09/99		FTS
Calcium	6010B	54.9	/1	0830 02/09/99	1949	WING
CalGium	POTOR	34.3	mg/1	0830	1949	FIS
Chromium	6010B	0.009	mg/1	02/09/99		FTS -
			_	0830	1949	•
Copper	6010B	<0.005	mg/l	02/09/99		FTS
Iron	6010B	0.259	ma/1	0830 02/09/99	1949 02/12/99	FTS
	******	*****	-5/-	0830	1949	
Lead	6010B	<0.003	mg/1	02/09/99		FTS
Was and an	COLOR	10.0	/1	0830	1949	nun a
Magnesium	6010B	19.9	mg/I	02/09/99 0830	1949	FTS
Manganese	6010B	0.054	mg/l	02/09/99		FTS
•				0830	1949	
Mercury	7470A	<0.0001	mg/l	02/11/99		FTC
Nickel	6010B	0.024	ma/1	0830 02/09/99	0900 02/12/99	FTS
	70202	*****		0830	1949	
Potassium	6010B	1.71	mg/l	02/09/99	• •	FTS
Selenium	60100	-0.005	/7	0830	1549	T.D.C.
seteuinm	6010B	<0.005	mg/1	02/09/99 0830	1949	FTS
Silver	6010B	<0.005	mg/l	02/09/99		FTS
				0830	1949	
Sodium	6010B	24.5	mg/l	02/09/99		FTS
Zinc	6010B	0.047	ma/1	0830 02/09/99	1949 02/12/99	FTS
	*****	••••	-5/-	0830	1949	
Dissolved Copper	6010B	<0.005	mg/l	02/09/99		FTS
				0830	1943	

Scientists and Consultants

106 VANTAGE POINT DRIVE CAYCE, SOUTH CAROLINA 29033

**CERTIFICATE OF ANALYSIS** 

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SC DHEC No. 32010

NEVADA GOLDFIELDS PO Box 1530 McCormick, SC 29

29835

Attention:

Client:

Scott Wilkinson

SHEALY Lab No: 157920FB Description: F. Blank

Coll. Date: 02/04/99 Coll. Time:

÷

QA/QC Officer _ /---

V.P. Analytical

Date Received: 02/05/99 Date Reported: 03/02/99

				Date	Date	
Parameters	Method	Rosult	Units	Prepared	Analyzed	Anal.
INORGANICS						
Alkalinity Bicarbonate	SM4500D	<10.0	mg/l		02/13/99	NWD
					0934	
Ammonia-N	350.3	<0.100	mg/l		02/09/99	EDN
Chloride	300.0	<1.00	mg/l		02/09/99	JPS
			•		1200	
Cyanide-Total	335.2	<0.010	mg/l	02/17/99		JPS
Fluoride-Total	300.0	<0.500	mg/l	0830	1200 02/09/99	TDG
- 4807 240 - 14087	30010	40.500			1200	020
Nitrate-N	353.2	<0.020	mg/l		02/05/99	NWD
********** ***			/9		0938	
Nitrite-N	354.1	<0.020	mg/l		02/05/99 0938	NWD ,
Sulfate	375.4	<1.00	mg/l		02/09/99	JPS
					1200	
TOC	415.1	<1.00	mg/l		02/26/99	
TDS	160.1	<10	mg/l		02/08/99 1425	WGW
					1123	
METALS						
Aluminum	6010B	<0.050	mg/l	02/09/99		FTS
Arsenic	6010B	<0.005	m~/1	0830 02/09/99	2014	<b>T</b> TO
MA BOULE	00100	40.005	mg/ I	0830	2014	715
Barium	6010B	<0.005	mg/l	02/09/99		FTS
	4-4			0830	2014	
Cadmium	6010B	<0.002	mg/l	02/09/99 0830	02/12/99 2014	FTS
Calcium	6010B	<0.050	mer/1	02/09/99		FTS
	*****	33333	<b>-3,</b> -	0830	2014	
Chromium	6010B	<0.005	mg/l	02/09/99		FTS
Copper	6010B	<0.005	/1	0830 02/09/99	2014	700
	00102	40.003	mg/ i	0830	2014	210
Iron	6010B	<0.050	mg/l	02/09/99	02/12/99	PTS
Y #			4-	0830	2014	
Lead	6010B	<0.003	mg/l	02/09/99 0830	02/12/99 2014	FTS
Magnesium	6010B	<0.030	mg/l	02/09/99		FTS
-			•	0830	2014	
Manganese	6010B	<0.015	mg/1	02/09/99		FTS
Mercury	7470A	<0.0001	m~/1	0830 02/11/99	2014	<b>7</b> 70
	, 2 / Vet	441444		0830	0900	
Nickel	6010B	<0.010	mg/l	02/09/99	02/12/99	FTS
				0830	2014	

Page 2 (Continuation of 157920FB)

Parameters	Method	Result	Units	Date Prepared	Date Analyzed	Anal.		
Potassium	6010B	<0.200	mg/l	02/09/99	02/17/99 1551	FTS		
Selenium	6010B	<0.005	mg/l	02/09/99 0830	02/12/99 2014	FTS		
Silver	6010B	<0.005	mg/l	02/09/99 0830	02/12/99 201 <del>4</del>	FTS		
Sodium	6010B	<0.100	mg/l	02/09/99 0830	02/12/99 2014	FTS		
Zinc	6010B	<0.005	mg/l	02/09/99 0830	02/12/99 2014	FTS		
Dissolved Copper	6010B	<0.005	mg/l	02/09/99 0830	02/12/99 1954	FTS	<b>&gt;</b> .	

### **DEPTH TO GROUNDWATER SUMMARY**

### NEVADA GOLDFIELDS McCormick, SC

WELL NUMBER	DGW (feet)
D-3	31.5
GW-N	12.0
GW-O	20.1
GW-5	10.8
L-2	30.1
F-3	42.5
A-3	30.9
GW-6	2.65
B-2	19.7

## SHEALY ENVIRONMENTAL SERVICES, INC. 108 Vantaç ointe Drive

Cayce, South. olina 29033 Telephone No. (803) 791-9700 Fax No. (803) 791-9111

CHAIN OF CUSTODY #	Telephone No. (803) 791-9700 Fax No. (803) 791-9111
Client Name Nevala Fold Fields	CHAIN OF CUSTODY RECORD

NPDES # 3

County				
•		<u> </u>		_

Receiving Stream

Pink Copy: Report

Reporting Address					_			S	AMI	PLE	AP	JAP	.YS	is e	RE(	QU	IIRI	ED					Outtail No	<del></del>
McComid sc	·				$_{\square}\Gamma$	Π		ا ت	ы	Τ	Τ			T		Т	Ţ	Ы		P	2	T	←PRESERVATION (CODE)	LAB USE ONLY
Attention 5. Wilkers					_				۽ ج			pecify								T	j	3	CODE: A = None	Program Area (Circle) DW CWA/NPDES
Felephone No		P.O. No.	—	7. 1	- Artamena	anductivity		ģ	LS - Speci	5	Specify	tes/PCBs - S	sep:	hemol	3rease		- Specify	8	n - Specify	ry - Specify	1	227	C = H2SO4 D = NaOH E = ICE F =	SP/LIQ SP/SOL Other:
Sample ID (Location)	PATE	TIME	WELL	COMP	GRAB S S S	F.	8	Specify	META S	E A	Meg V	Perstrox	Herbic	Total	8 8	<b>8</b>	S	Cyan	8£	<u> </u>			REMARKS '	SESI LAB I.D.
A-3	Start 2 Feb Finish	1145	K		c		1 (	<b>√</b>	- 1									1			// \		Gen-TDS, Alk, Sulfate Nitrak-N, Chlor, Je	157576
L-2	Start 2.Feb Finish	1255	8		6	5		~	<b>V</b>									1			//	1	Muti-Nitrik-N, TOC,. Ammonia	157517
GWS	Start 2Fcb Finish	13.32			c.	5																	Metals-Asity, Se, Pb, Al, Bu, Cd, Cu, Cr, Cu	157518
GW 0	Start 26Ch Finish	1420			15	5																	Ay, Na, 2n,	157519
	Start Finish																						Dissolved Metal Cu	
	Start										<del>-</del>												Mely - Must be feltered	
	Start																						Fe Hored	
	Start		-																					
SAMPLER MILION OUPTIVE Frint Name: ALAW Signature:	BAUR	ા અનુક	1	Time	15	F	Rece	ived	by (	Sig.)	-		•	<del></del>					Da	ate/T	îme	_	Hazards Associated with Sample	Custody Seal Intact (Circle) YES NO NONE Receipt TRCmg/l
Relinquished by (Sig.)				Time		F	Rece	ived	by (	Sig.)							1		Da	ate/T	ime			Receipt Temp. 38 °C
Relinquished by (Sig.)	<del></del>		Date/	Time		1	ab R	9	pt by	(Sig.)	01	سد					12	42	(P	te/1	ime	 (o<	3	Received on Ice (Cirole) (YES) NO ICE RACK

Vallow Conv. Sheak

SHEALY ENVIRONMENTAL SERVICES, INC.

106 Vantage interpreted lina 29033

Telephone No. (803) 791-9700 Fax No. (803) 791-9111

NPDES #	
County	

CHAIN OF CUSIODY	#
Client Name Nevolu	Goldfield

1818phone No. (803) /91-9700 Fax No. (803) /91-9111	County
CHAIN OF CUSTODY RECORD	Receiving Stream
	O. Mall Na

Donortino Adulto						CI.				_				_							11		
Reporting Address	ラー				_		_	SAN	<u>IPI</u>	LE A	MA	LY	SIS	RE	QUI	RE	<u>₽</u>	<del>-</del> -		<del>, , , ,</del>	_	Outfall No	
M. Coranth							_	$\sqcup$	_		_				$\perp$	$\perp$	$\perp$	4	$\perp$	$\downarrow \downarrow$	$\dashv$	←PRESERVATION (CODE)	LAB USE ONLY
Attention 5. W:ll-rso Telephone No.	!	P.O. No. ₋			farners	pH, Conductivity BOD		S - Specify	X - Specify	A:SE	equired s/PCBs - Specify	88	emol	ease	Specify	ghaculy	- Specify	- Specify	1.00	3		CODE: A = None B = HNO3 C = H2SO4 D = NaOH E = ICE	Program Area (Circle) DW CWA/NPDES RCBA SP/SOL SP/LIQ Other:
Sample ID (Location)	Y, PQQQ DATE	TIME	WELL	COMP	00 Jo	F. C.	Nutrients Specify	METAL		BTEX VOC-S	Method i	Herbick	Total P	Orl & Grease	SAMB S		Solitoria di	Toxicity		فرا	ļ	F=	SESI LAB I.D.
<b>D</b> -3	Start AFeb Finish				6	- 1										٧			1			Gen-TDS, CI, N. Hzb-N, Alk, Sulfate	157914
B-2	Start		1		6		1		1							,				1	<b>^</b>	Nuls-Nitrik-N, Amous TOC	1579115
cw.6	Start		1		5		1		5							•			/	1	-	Metals - As, Hg, Se, Ph, Al, Ba, Cd, Ca	157916
6w-N	Start		1		6		5										/		•	//	-	Al, Ba, Cd, Cu Cr, Cu, Fe, Mg Mn, Ni, K, As, N., Zn	157917
F-3	Start		1		5		1		/												•		157918
D3a	Start		/		2	35	X		X	39.2	go.						X	2	v.	an Till		Dissolut Cu - must be	157919
r Blank	Start Finish																					Filer	157920 FC
	Start Finish																						te kr
SAMPLER MILTON QUATTL Print Name: Signature:  Signature:		4~19	ate/Ti	me	د.	ar	_	d by		<del>3.)</del>	حا⁄~ 	<u>'</u>	<u>.                                    </u>	<u> </u>	1	4	Cel	_	te/Ti	ime	s	Hazards Associated with Sample	Custody Seql Intact (Circle) YES NO NONE Receipt TRCmg/l
Relinquished by (Sig.)		D	ate/Ti	me		Rec	eive	d by	(Sig	•										Receipt Temp.3. 6 °C			
Relinquished by (Sig.)  White Coov: Samo		5AB	PATI	me 08	45	Lab Receipt by (Sig.)  Yellow Copy: She				24		<b>Dat</b>	te/Ti	ime 4	45	5	Reserved on Ice (Circle) PES NO ICE PACK Rink Copy: Report						

F	<u>'ielo</u>	l Data	Information	Sheet	For	Groun	<u>dwater</u>	Samplin	2

Page ____ of __

V	

Shealy Environmental Services, Inc. 106 Vantage Point Drive Cayce, S.C. 29033

157914

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	2	P-		
Date (MM-DD-YY)	February	24 1999		Casing Diameter: 2 inches Casing Material: EVC Metal
Field Personnel	GW	S,MPQ		Guard Pipe: PVC - Metal No Locking Cap: Y- N
Facility Name	NEVADA GO	LDFIELDS, INC.		Protective Abutment: Y - N Integrity Satisfactory: Y N
Well ID#	7D-3			Well Yield: Low - Mod High
Weather Conditions	3VERCAST	Air Temperature	°C.	Remarks:
Total Well Depth (TWD)	)= 81.00			
Depth To Groundwater (	DGW) = 31.50			
Length Of Water Column	n (LWC) = 49.50			
1 Casing Volume (OCV)	=LWC x φ. 163 = 8,		gal.	
3 Casing Volumes =	24.3	gal. = Standard Evacuation	Volume	
Total Volume of Water F	Removed =		gal.	
Method of Well Evacuati	on (78 SSB WW	GP Other		
Method of Sample Collec	etion (B) SSB WW	GP Other		
<b>Evacuation and Collection Meth</b>	ods Constants for Casing Di	ameters		

TB - Teflon Bailer 1.5" = 0.0925" = 1.02 SSB - Stainless Steel Bailer  $2^{*} = 0.163$  $6^n = 1.47$ WW - Well Wizard 7" = 2.00 3" = 0.367 GP - Grunfos Pump 4" = 0.652 8" = 2.61

FIELD ANALYSES

VOLUME PURGED (GALLONS)
TIME (24 HOUR SYSTEM)
pH (SU)
WATER TEMPERATURE (°C.)
SP. CONDUCTIVITY (UMHOS/CM)
TURBIDITY (SUBJECTIVE)*
ODOR (SUBJECTIVE)**

I IEED ALVALI SES							
VOLUME PURGED (GALLONS)	इर	8.1	16.2	24.3	WELL SAMPLE TIME:		
TIME (24 HOUR SYSTEM)	1040	1044	1049	1054	Remarks:		
pH (SU)	6.29	6.38	6.41	6.43			
WATER TEMPERATURE (°C.)	18.0	19	19	19			
SP. CONDUCTIVITY (UMHOS/CM)	480	470	460	450			
TURBIDITY (SUBJECTIVE)*	1	1	1	1			
ODOR (SUBJECTIVE)**		1					
	= HIGH	** 1 = NONE	2 = FAINT 3 = MO	DERATE 4 = STRONG			

Field	Data	T6	400	Chast	E	Canadan	.4	C	lina
rield	Data	Informa	cion	Sneet	ror	Groundwa	iter	Samb	ung

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Lage	UI	



Shealy Environmental Services, Inc. 106 Vantage Point Drive Cayce, S.C. 29033

·					
Date (MM-DD-YY)	February	4 1999		Casing Diameter: 2 inches	Casing Material: PVC Metal
Field Personnel	GWS,	MPQ		Guard Pipe: PVC - Metal No	Locking Cap: Y N
Facility Name	NEVADA GOLI	DFIELDS, INC.		Protective Abutment: Y - N	Integrity Satisfactory: Y N
Well ID# Gh	1- ~			Well Yield: Low - Mod. High	
Weather Conditions		Air Temperature	°C.	Remarks:	<del></del>
Total Well Depth (TWD) =	27.02				
Depth To Groundwater (DGW) =	12.0				
Length Of Water Column (LWC) =	15.02				
1 Casing Volume (OCV) = LWC x	-163 = 2.4	15	gal.		
3 Casing Volumes =	7.34	gal. = Standard Evacu	ation Volume		
Total Volume of Water Removed =		· <del></del>	gal.		
Method of Well Evacuation	TB SSB WW G	P Other			
Method of Sample Collection	TB) SSB WW G	P Other			
Evacuation and Collection Methods TB - Teflon Bailer	Constants for Casing Diame				
SSB - Stainless Steel Bailer	2" = 0.163 6" =				
WW - Well Wizard	3" = 0.367 7" =				
GP - Grunfos Pump	4" = 0.652 8" =	2.61			
		FIELD A	ANALYSES		
		<del></del>		11	OLT CANDID DING

**VOLUME PURGED (GALLONS)** 

TIME (24 HOUR SYSTEM)

pH (SU)

WATER TEMPERATURE (°C.)

SP. CONDUCTIVITY (UMHOS/CM)

TURBIDITY (SUBJECTIVE)*

ODOR (SUBJECTIVE)**

* I = CLEAR 2 = SLIGHT 3 = MODERATE 4 = HIGH

		HELD ANAL I S		
125	2.45	4.90	7.35	WELL SAMPLE TIME: //56
1134	1140	1146	1150	Remarks:
6.47	6.69	6.74	6.86	
17	16	17	17	
430	410	400	400	
	1	2	2	
	1	1	1	
HIGH	** 1 = NONE 2	= FAINT 3 = MOI	DERATE 4 = STRO	NC .

Page	of
LUEC	O1

Shealy Environmental Services, Inc. 106 Vantage Point Drive Cayce, S.C. 29033

Date (MM-DD-YY)	February	a 1999	•	Casing Diameter: 2 inches Casing Material: PVC Metal
Field Personnel	GW	S, MPQ		Guard Pipe: PVC - Veta - No Locking Cap: N
Facility Name	NEVADA GO	LDFIELDS, INC.		Protective Abutment: Y - Integrity Satisfactory: V N
Well ID#	Gwo			Well Yield: Low - Mod High
Weather Conditions Cla	יני נייושל	Air Temperature	°C.	Remarks:
Total Well Depth (TWD) =	28.62			
Depth To Groundwater (DGW) =	20.05			
Length Of Water Column (LWC) =	8.57			
1 Casing Volume (OCV) = LWC x	φ.163 = 1.4		gal.	Dry (a 23 gch
3 Casing Volumes =	4.2	gal. = Standard Evacuat	ion Volume	
Total Volume of Water Removed =			gal.	
Method of Well Evacuation	B SSB WW	GP Other		
Method of Sample Collection	(f) SSB WW	GP Other		
Evacuation and Collection Methods .	Constants for Casing Di	ameters		

 Evacuation and Collection Methods
 Constants for Casing Diameters

 TB - Teflon Bailer
 1.5" = 0.092
 5" = 1.02

 SSB - Stainless Steel Bailer
 2" = 0.163
 6" = 1.47

 WW - Well Wizard
 3" = 0.367
 7" = 2.00

 GP - Grunfos Pump
 4" = 0.652
 8" = 2.61

FIELD ANALYSES

VOLUME PURGED (GALLONS)
TIME (24 HOUR SYSTEM)
pH (SU)
WATER TEMPERATURE (°C.)
SP. CONDUCTIVITY (UMHOS/CM)
TURBIDITY (SUBJECTIVE)*
ODOR (SUBJECTIVE)**  * I = CLEAR 2 = SLIGHT 3 = MODERA

		FIELD ANAL IS	LO	
ist	1.4	2.8		WELL SAMPLE TIME:
1400	1402	1404		Remarks:
( 63	670	6.70		
17	17,	17		
340	335	330		
1	l	(		
1	1	1		
****	44 1 11017	0 E4DEE 0 1/0	DED ASSE 4 ASSESSMENT	

^{1 =} CLEAR 2 = SLIGHT 3 = MODERATE 4 = HIGH ** 1 = NONE 2 = FAINT 3 = MODERATE 4 = STRONG

Field	Da.a	Information	Sheet For	Groundwater	Sampling
7.1010	D444	TRIOI MISSION	OHCCL I OI	Ol Cananatel	ويبيناويت

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Shealy Environmental Services, Inc. 106 Vantage Point Drive Cayce, S.C. 29033

February	2 1999	. ` [	Casing Diameter: 4 inches	Casing Material: PVC - Metal
GWS,	MPQ		Guard Pipe: PVC - Metal - No	Locking Cap: (Y'-) N
NEVADA GOLI	DFIELDS, INC.		Protective Abutment: Y - N	Integrity Satisfactory: (Y -) N
GW-5			Well Yield: Low - Mod High	
OVERAST / WINDY	Air Temperature	°C.	Remarks:	
37.80				· · · · · · · · · · · · · · · · · · ·
<del>-                                    </del>			Dre 17-6	
0.652 = 17.6		gal.		
13-8	gal. = Standard Evacua	tion Volume		
		gal.		
SSB WW C	P Other			
(TB) SSB WW C	P Other			
	GWS,  NEVADA GOLI  GW-5  ONERAS / WINDY  37.80  10.80  27.00  Ø.662 = 17.6  (TB) SSB WW G	GWS, MPQ  NEVADA GOLDFIELDS, INC.  GW-5  ONERAS / WINDY Air Temperature  37.80  10.80  27.00  Ø.662 = 17.6  52.8 gal. = Standard Evacua	GWS, MPQ  NEVADA GOLDFIELDS, INC.  GW-5  ONEXAS / WINDY Air Temperature °C.  37.80  10.80  27.00  Ø.652 = 17.6  gal. = Standard Evacuation Volume  gal.  TB SSB WW GP Other	GWS, MPQ  NEVADA GOLDFIELDS, INC.  GW-5  Well Yield: Low-Mod High  NEVADA GOLDFIELDS, INC.  GW-5  Well Yield: Low-Mod High  Remarks:  37.80  10.80  27.00  gal. = Standard Evacuation Volume  gal.  TB SSB WW GP Other  TB SSB WW GP Other

 Evacuation and Collection Methods
 Constants for Casing Diameters

 TB - Teflon Bailer
 1.5" = 0.092
 5" = 1.02

 SSB - Stainless Steel Bailer
 2" = 0.163
 6" = 1.47

 WW - Well Wizard
 3" = 0.367
 7" = 2.00

 GP - Grunfos Pump
 4" = 0.652
 8" = 2.61

FIELD ANALYSES

TIME (24 HOUR SYSTEM)	134
pH (SU)	7
WATER TEMPERATURE (°C.)	
SP. CONDUCTIVITY (UMHOS/CM)	
TURBIDITY (SUBJECTIVE)*	<b></b> -
ODOR (SUBJECTIVE)**  * 1 = CLEAR 2 = SLIGHT 3 = MODERATE 4 =	HIGH

	_ <del>_</del>	ILLU ANAL I SI	<del></del>	<del></del>	T
127	17.6		<u> </u>	<u> </u>	WELL SAMPLE TIME:
1303	1318				Remarks:
7.07	1,10				
15	15				
300	30)				
l	4				
1	1				
HIGH	** 1 = NONE 2	= FAINT 3 = MOI	DERATE 4 = STRO	NG	· · · · · · · · · · · · · · · · · · ·

#### Field Data Information Sheet For Groundwater Sampling

	•
She	aly Environmental Ser
106	Vantage Point Drive
Cay	ce. S.C. 29033

Page	of
Lago	OI

Date (MM-DD-YY)	February	2 1999	,	Casing Diameter: 2 inches	Casing Material: PVC Metal
Field Personnel	GWS	, MPQ		Guard Pipe: PVO- Metal - No	Locking Cap: ② - N
Facility Name	NEVADA GOI	DFIELDS, INC.		Protective Abutment: Y -	Integrity Satisfactory: (Y)- N
Well ID#	L-2		_ '	Well Yield: Low - Mod High	
Weather Conditions OV	ERCAST / WILDY	Air Temperature	°C.	Remarks:	
Total Well Depth (TWD) =	81,91				
Depth To Groundwater (DGW) =	30.10				
Length Of Water Column (LWC) =	51.81				
1 Casing Volume (OCV) = LWC x	Ø.163 = 8.4		gal.		
3 Casing Volumes =	25.2	gal. = Standard Evacuat	tion Volume		
Total Volume of Water Removed =			gal.		
Method of Well Evacuation	AB SSB WW	GP Other			
Method of Sample Collection	fB) SSB WW	GP Other			
	0	<del></del>		·	

 Evacuation and Collection Methods
 Constants for Casing Diameters

 TB - Teflon Bailer
 1.5" = 0.092
 5" = 1.02

 SSB - Stainless Steel Bailer
 2" = 0.163
 6" = 1.47

 WW - Well Wizard
 3" = 0.367
 7" = 2.00

 GP - Grunfos Pump
 4" = 0.652
 8" = 2.61

FIFI D ANAI VSFS

TIME (24 HOUR SYSTEM)
pH (SU)
WATER TEMPERATURE (°C.)
SP. CONDUCTIVITY (UMHOS/CM)
TURBIDITY (SUBJECTIVE)*
ODOR (SUBJECTIVE)**  * 1 = CLEAR 2 = SLIGHT 3 = MODERAT

150	8.4	160	25 2	WELL SAMPLE TIME: (255
ાત્રીહ	1228 1220	1234	1246	Remarks:
4.70	4.78	688	6.96	
17.0	17.0	17.0	17.5	
270	270	270	270	
l .	1		1	
1	i	l	(	

I = CLEAR 2 = SLIGHT 3 = MODERATE 4 = HIGH ** I = NONE 2 = FAINT 3 = MODERATE 4 = STRONG

Field Data	Information	<b>Sheet For</b>	Groundwater	Sampling

Shealy Environmental Services, Inc. 106 Vantage Point Drive Cayce, S.C. 29033

Date (MM-DD-YY)	February 4	1999	•	Casing Diameter:inches	Casing Material: PVC Metal
Field Personnel	GWS,	МРQ		Guard Pipe: PVC Metal No	Locking Cap: Y N
Facility Name	NEVADA GOLI	FIELDS, INC.		Protective Abutment: Y - N	Integrity Satisfactory: Y- N
Well ID#	F-3			Well Yield: Low (Mod.)- High	
Weather Conditions	ear, Windy	Air Temperature	°C.	Remarks:	
Total Well Depth (TWD) =	71.35				
Depth To Groundwater (DGW)	42.45				
Length Of Water Column (LWC	)= 28.9				
1 Casing Volume (OCV) = LWC	Cx 0.163 = 4.	7 1	gal.		
3 Casing Volumes =	14.13	gal. = Standard Evacuation	on Volume		
Total Volume of Water Removed	]=		gal.		
Method of Well Evacuation	TB SSB WW G	P Other	<del> </del>		
Method of Sample Collection	TB) SSB WW G	P Other			
Evacuation and Collection Methods	Constants for Casing Diame	ters			

 Evacuation and Collection Methods
 Constants for Casing Diameters

 TB - Teflon Bailer
 1.5" = 0.092
 5" = 1.02

 SSB - Stainless Steel Bailer
 2" = 0.163
 6" = 1.47

 WW - Well Wizard
 3" = 0.367
 7" = 2.00

 GP - Grunfos Pump
 4" = 0.652
 8" = 2.61

FIELD ANALYSES

TIME (24 HOUR SYSTEM)
pH (SU)
WATER TEMPERATURE (°C.)
SP. CONDUCTIVITY (UMHOS/CM)
TURBIDITY (SUBJECTIVE)*
ODOR (SUBJECTIVE)**

	i	IELD ANAL I SE	20	 
至	4.71	9.42	14.13	WELL SAMPLE TIME:
1512	1523	1533	1542	Remarks:
5.77	5.87	5.65	5.63	
18	18	18	18	
60	50	50	50	
1	1	1	1	
	¥	1	1	

I = CLEAR 2 = SLIGHT 3 = MODERATE 4 = HIGH ** I = NONE 2 = FAINT 3 = MODERATE 4 = STRONG

#### Field Data Information Sheet For Groundwater Sampling

Page	of	•

Shealy Environmental Services, Inc. 106 Vantage Point Drive Cayce, S.C. 29033

Date (MM-DD-YY)	February 2	1999	Casing Diameter: 2 inches	Casing Material: PVC Metal
Field Personnel	GWS, M	PQ)	Guard Pipe: PVC - Meta) - No	Locking Cap: N
Facility Name	NEVADA GOLDF	IELDS, INC.	Protective Abutment: Y - N	Integrity Satisfactory: Y- N
Well ID#	A-3		Well Yield: Low Mod - High	
Weather Conditions CNE	PLAST A	ir Temperature °C.	Remarks:	<del>•</del>
Total Well Depth (TWD) =	73.10			
Depth To Groundwater (DGW) =	√30.8€		MIDPLE WELL IN	CUSTER
Length Of Water Column (LWC) =	42.25			
1 Casing Volume (OCV) = LWC x	6.163 = C.9	gal.		
3 Casing Volumes =		al. = Standard Evacuation Volume		
Total Volume of Water Removed =		gal.		
Method of Well Evacuation	SSB WW GP	Other		·········
Method of Sample Collection	TB SSB WW GP	Other		
Everystian and Collection Methods	Constants for Casing Diameters	<del></del>	<u> </u>	<del></del>

 Evacuation and Collection Methods
 Constants for Casing Diameters

 TB - Teflon Bailer
 1.5" = 0.092
 5" = 1.02

 SSB - Stainless Steel Bailer
 2" = 0.163
 6" = 1.47

 WW - Well Wizard
 3" = 0.367
 7" = 2.00

 GP - Grunfos Pump
 4" = 0.652
 8" = 2.61

FIELD ANALYSES

VOLUME PURGED (GALLONS)	<u> </u>
TIME (24 HOUR SYSTEM)	11
pH (SU)	9
WATER TEMPERATURE (°C.)	
SP. CONDUCTIVITY (UMHOS/CM)	1
TURBIDITY (SUBJECTIVE)*	ļ
ODOR (SUBJECTIVE)**	<u> </u>
<ul> <li>1 = CLEAR 2 = SLIGHT 3 = MODERATE 4 =</li> </ul>	: HIGH

E TIME:

Field Data	Information	Sheet 1	For Groun	<u>dwater</u>	Sampling
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Shealy Environmental Services, Inc. 106 Vantage Point Drive Cayce, S.C. 29033

Date (MM-DD-YY)	February 4 1999	Casing Diameter: Uniches Casing Material: RVC Metal
Field Personnel	GWS, MPQ	Guard Pipe: PVC - Metal-No Locking Cap: V N
Facility Name N	EVADA GOLDFIELDS, INC.	Protective Abutment: Y - N Integrity Satisfactory: Y - N
Well ID# Gw-	6	Well Yield: Low Mod High
Weather Conditions Clear, h	Oind Air Temperature	°C. Remarks:
Total Well Depth (TWD) = 28.4		
	( ₆ 5	Day At 16,8 gals
Length Of Water Column (LWC) = 25	5.75	
1 Casing Volume (OCV) = LWC x D.65	4 10 0	gal.
3 Casing Volumes = 50.	gal. = Standard Evacuation Volu	me ·
Total Volume of Water Removed =		gal.
Method of Well Evacuation TB	SSB WW GP Other	-
Method of Sample Collection TB	SSB WW GP Other	
TB - Teflon Bailer 1.5" SSB - Stainless Steel Bailer 2" WW - Well Wizard 3"	nstants for Casing Diameters " = 0.092	
	FIELD ANALYSE	SS
VOLUME PURGED (GALLONS)	16.8	WELL SAMPLE TIME: 1448
TIME (24 HOUR SYSTEM)	1430 1440	Remarks:
pH (SU)	6.38 6.47	
WATER TEMPERATURE (°C.)	17 19	
SP. CONDUCTIVITY (UMHOS/CM)	200 200	
TURBIDITY (SUBJECTIVE)*		
ODOR (SUBJECTIVE)**  1 = CLEAR 2 = SLIGHT 3 = MODERATE 4 =	HIGH ** 1 = NONE 2 = FAINT 3 = MOD	FRATE 4= STRONG

Field	Data	Information	Sheet For	Groundwater	Sampling
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Shealy Environmental Services, Inc. 106 Vantage Point Drive Cayce, S.C. 29033

					<del></del>
Date (MM-DD-YY)	February 4	1999		Casing Diameter: 2 inches	Casing Material: (PVC) Metal
Field Personnel	GWS, MI	PQ		Guard Pipe: PVC Metal-No	Locking Cap: Y N
Facility Name	NEVADA GOLDFI	ELDS, INC.		Protective Abutment: Y	Integrity Satisfactory: (Y) N
Well ID# B-	2			Well Yield: Low - Mod. (High)	
Weather Conditions	e, Winda Ai	ir Temperature	°C.	Remarks:	
Total Well Depth (TWD) =	121.00				
Depth To Groundwater (DGW) =	19.65				
Length Of Water Column (LWC)	= 101.35				
1 Casing Volume (OCV) = LWC	× 0.163 = 16.5	2	gai.		
3 Casing Volumes =	49.56 gs	al. = Standard Evacuation Vo	olume		
Total Volume of Water Removed	<b>=</b>		gal.		
Method of Well Evacuation	TB SSB WW GP	Other			
Method of Sample Collection	SSB WW GP	Other			
Evacuation and Collection Methods	Constants for Casing Diameters				

 Evacuation and Collection Methods
 Constants for Casing Diameters

 TB - Teflon Bailer
 1.5" = 0.092
 5" = 1.02

 SSB - Stainless Steel Bailer
 2" = 0.163
 6" = 1.47

 WW - Well Wizard
 3" = 0.367
 7" = 2.00

 GP - Grunfos Pump
 4" = 0.652
 8" = 2.61

FIELD ANALYSES

TIME (24 HOUR SYSTEM)	13		
pH (SU)	۵		
WATER TEMPERATURE (°C.)	2		
SP. CONDUCTIVITY (UMHOS/CM)			
TURBIDITY (SUBJECTIVE)*			
ODOR (SUBJECTIVE)**			
• 1 = CLEAR 2 = SLIGHT 3 = MODERATE 4 =	HIGH		

		LIELD WATE 13	<u> </u>	
14	16.52	33.04	49.56	WELL SAMPLE TIME: 1418
1325	1336	1350	1404	Remarks:
6.81	6.88	6.95	6.84	
20	19	18	18	
230	210	200	200	
1		1	1	
			1	
HIGH	** 1 = NONE	2 = FAINT 3 = MOI	DERATE 4 = STRON	G

### ANALYTICAL METHODOLOGY

## NEVADA GOLDFIELDS McCormick, SC

	EPA
<u>PARAMETER</u>	<b>METHOD</b>
TDS	160.1
Nitrate	353.2
Nitrite	354.1
Alkalinity-Bicarbonate	SM4500D
Ammonia-N	350.3
Chloride	300.0
Sulfate	300.0/375.4
TOC	415.1
Cyanide	335.2
Fluoride	300.0
Metals: Mercury	7470A
Diss. Metals	6010B
Total Metals (All others)	6010B